

## **PART A. GENERAL SUBDIVISION PRACTICE**

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## A.1 GENERAL

This Code provides a guide for development and subdivision in Wellington City. It integrates sustainable principles of land development intending to enhance water quality, minimise land disturbance, preserve native vegetation and minimise impervious surfaces.

The Council is committed to operating safe and efficient infrastructure systems. In line with our three-year priorities, we aim to increase the resilience of these systems to earthquakes and other natural disasters, including adapting to climate change. The Council's Wellington's Towards 2040 Strategy positions Wellington as an internationally competitive city with a strong and diverse economy, a high quality of life and healthy communities without compromising the environment. It will achieve the Towards Wellington 2040 Strategy goals through maintaining and developing smart and connected networks and by managing networks and resources prudently to ensure resilient and sustainable use. As such this Code contributes to achieve these goals through requiring engineering standards and best environmental practice for earthworks, open space, roading and stormwater.

This Code also incorporates the Regional Water Standard provisions for water and drainage assets; ensuring a consistent method of design and implementation of water services across the Wellington region.

Through requiring assets to be designed and built to engineering standards the Code provides the cornerstone of public health and safety. The provision of adequate potable water supplies and treatment and disposal of wastewater are not open to alternative solutions as these services must be compliant, as a minimum, with the following legislation;

- Resource Management Act 1991
- Building Act 1991
- Local Government Act 2002
- Land Drainage Act 1908
- Health Act 1956
- Soil Conservation and Rivers Control Act 1941
- Civil Defence Emergency Management Act 2002
- Health and Safety in Employment Act 1992

- Drinking Water Standards for New Zealand 2000

This Code has been written to complement the District Plan by providing more detailed technical standards necessary for the construction of subdivisions. Should there be a discrepancy between the District Plan and this Code; the District Plan shall take precedence.

The primary purpose of this Code is to provide a standard technical document for all users. It is intended for planners, designers and developers servicing the land development industry and for work done on behalf of the Council for asset construction, relocation, replacement and renewal.

The procedures and standards used for rural subdivisions shall be as for urban subdivisions, except as may be modified in the relevant chapters

An important component of the District Plan for subdivisions is the Subdivision Design Guide which provides guidelines for the design, layout and construction of subdivisions.

The intention of the Subdivision Design Guide is: to facilitate neighbourhoods that are liveable, sustainable, well-connected and safe, and that have a strong sense of place.

The Subdivision Design Guide promotes high quality living environments including the public settings and facilities which allow a sense of community to develop. It will promote implementation of low-impact, environmentally sustainable design, maintaining valued landscapes and natural features. It also aims to provide for walking and cycling and convenient access to local facilities including public transport.

Other guides that apply are the Residential Design Guide, the Centres and Business Area Design Guides, the Rural Area Design Guide and the various Central Area design guides. Not part of the District Plan, but also relevant are other design guides, such as including the Public Space Design Guide and Central City Framework.

The intention of the Rural Area Design Guide is to protect and enhancing rural character and amenity while also providing for sustainable rural living. It is intended that subdivisions and residential buildings will be:

- sensitive to the unique rural landscapes of Wellington
- environmentally sustainable
- attractive places to live, and
- efficiently integrated into the infrastructure networks

There may be instances where an objective can be best achieved by a means not anticipated by the Design Guides or this Code. In this situation, departure from the Design Guides or the Code is justifiable if it can be demonstrated that the proposed design solution better satisfies the associated design objective.

## **A.2 FEES AND DEPOSITS**

Further to the financial contributions described in Section 3.4 of the District Plan, the Development Contributions Policy and the Resource Consent fees, the following fees are required in connection with the engineering development of the subdivision.

### **A.2.1 Inspection Fee**

An inspection fee is required to cover the cost of Council inspections of the engineering plans, specifications and the works.

### **A.2.2 Extra Inspection / Supervision of Works**

Where extra inspections may be desirable because of the magnitude of the works or where the Subdivider has not engaged the services of a Chartered Professional Engineer (civil or structural), or Registered Professional Surveyor, to supervise the work the Council may appoint and employ an Inspector for this purpose, and charge the costs of their services to the Subdivider.

### **A.2.3 Legal and Associated Costs**

Any legal and associated costs in connection with the granting of drainage easements, caveats, the uplifting of same, dedication, laying off of under-width streets, declaration of public drains, etc.

### **A.2.4 Street Planting Costs**

Where the Council are to plant a tree on behalf of the developer, the Council will require payment for provision, planting and maintenance of the street tree and/ or planting described in section C.4.1

### **A.2.5 Public Drainage Permit Fee**

A Public Drainage permit fee is required where work is to be carried out on public drains (work on private drains is to be carried out under the Building Act).

### **A.2.6 Water Connection Fee**

A water connection fee is required where a connection is required to a public water main.

### **A.2.7 Other Fees that may fall out of these machinations**

Any and all other fees that may fall out of these machinations

## **A.3 QUALITY OF WORK**

Plans and construction shall be designed, supervised and certified by suitably qualified persons in the related area of expertise.

The Council requires the design, construction and certification of any development to be overseen by a Chartered Professional Engineer (civil or structural), or Registered Professional Surveyor.

All drawings and plans submitted for approval must be in accordance with the current Wellington City Council Drawing and Asbuilt Specification.

### **A.3.1 Design Fieldwork**

Although electronic data relating to Councils networks is available and is useful in the feasibility stage of a design, the final design shall be based on information confirmed by carrying out topographical surveys, levelling (in particular accurate manhole inverts) and field checks/investigation ( i.e. manhole inspections).

## **A.4 ENGINEERING APPROVALS AND NOTIFICATIONS**

The Approval and Notification of the appropriate Council Representatives is required at various stages of the subdivision.

The appropriate Council Representative and stages of the subdivision are summarised in Table 1.

Where **notification** is required, work on the next stage shall not commence until the Council Representative has been notified and had a 3 working day period to inspect the work.

Where an **approval** is required during the construction work an inspection will be made within 3 days, not including weekends or public holidays, or as soon thereafter as possible. On no account shall the next stage of construction commence until the work has been passed as being satisfactory.

Stage	Council Representative for:		
	<i>Roads and Earthworks</i>	<i>Drainage</i>	<i>Water</i>
Water right consent application		Approval required	
Proposed construction details	Approval required	Approval required	Approval required
Drainage permit		Approval required	
Initial commencement	Notification Required	Notification Required	Notification Required
Re-commencement (after a 6 month lapse of work)	Notification Required	Notification Required	Notification Required
Commencing Silt retention structures	Notification Required	-	-
Commencing Subsoil Drainage	Notification Required	-	-
Commencing earthworks	Notification Required	-	-
Obtain "Street Opening Notice" for trenching in existing road land	Notification Required	-	-
Completion of drains and water mains (prior to backfill)	-	Notification Required	Approval required
Completion of road subgrade	Notification Required	-	-
Completion of kerb and channel subgrade	Notification Required	-	-
Testing of drains / water mains	-	Approval required	Approval required
Connection to existing drains / water mains	-	Notification Required	Notification Required

Stage	Council Representative for:		
	<i>Roads and Earthworks</i>	<i>Drainage</i>	<i>Water</i>
Benkelman beam testing of basecourse	Approval required	-	-
Completion of footpath subgrade	Notification	-	-
	Required	-	-
Road surface preparation for sealing	Notification	-	-
	Required	-	-
Berm areas prior to soil and sowing	Notification	-	-
	Required	-	-
As Built Plans	Approval required	Approval required	Approval required
Final completion of subdivision	Approval required	Approval required	Approval required

**Table 1: Summary of Engineering Approvals and Notifications.**

## A.5 DETAILS OF SUBDIVISION

Information to be submitted for the Resource Consent is covered in the District Plan Section 3.2.3. Details are also required prior to construction for Engineering approval and after construction for Council Asbuilt records.

### A.5.1 Proposed Construction Details

As a minimum, the details required of any proposed construction are:

- a) Specifications for carrying out the work.
- b) Detailed calculations for pavement design, water main pipe size, stormwater and wastewater pipe sizes, together with associated supporting information where appropriate.
- c) The Name(s) and Employer(s) of the person(s) who will be supervising the construction work.
- d) An erosion and sediment control plan identifying sediment and erosion hazards and the proposed management controls during and post construction.
- e) A contact name and telephone number in case any emergencies arise in the course of the subdivision. Refer clause A.13.
- f) Sets of construction plans of the work as follows:

Roading plans	1
Earthworks plans	1
Drainage plans	2
Water supply plans	2
TOTAL NO. OF PLANS =	<u>6</u>

NOTE: Further construction requirements maybe required – refer to each chapter of this document.

For Earthworks, Rooding and Open Spaces: plans shall be drawn in accordance with the “Basic Plan Standards and Details” in Appendix A and shall include the following information:

- i) Earthworks – Extent and depth of cut and fill, surface and subsoil drainage, erosion and sediment control prior to, during and after construction.
- ii) Rooding – Formation, subgrade drainage, metalling, kerb and channelling, sealing, footpath construction, treatment of areas outside the carriageway.
- iii) Open space concepts including street tree planting proposal (individual trees or mass planted shrubs and trees) including plant species.
- iv) Vegetation and natural features – Any bush or other vegetation, landforms, outcrops, streams or other natural features
- v) Other Services – All power and telecommunication cables, lighting standards, gas mains and any of their ancillary works.
- vi) Existing services – All existing services (live and abandoned) not being altered shall be clearly shown by their location and depth.

For Drainage and Water requirements: refer to the Wellington City Council Design, Construction and As-built Documentation Specification.

## A.5.2 Levels

Levels for all assets shall be in terms of the Wellington “New City Datum” (the same datum as Mean Sea Level (1953 Wellington Local Datum)<sup>1</sup>). Levels shall be taken from an approved benchmark, unless written dispensation is granted by Council.

Approved benchmarks include the 94 Wellington City Council benchmarks and 250 LINZ survey marks (Survey Standards and Reference Marks), second order levelled, which can be used as approved benchmarks.

The applicant may apply to Council for a dispensation from use of an approved benchmark; where access to an approved benchmark is not possible or reasonable. In some instances the applicant may be required to establish a new benchmark – refer to Regional Standard for Water Services. If a written dispensation has been granted, levels may be taken from the invert of an existing drain, provided there is no significant drop in the manhole. The accuracy of any invert used under dispensation must be established before use.

Invert levels shall be calculated to at least two decimal places and shall be accurate to +/-20mm.

The Council requires the source of all data used for all designs and asbuilts to be documented on submitted plans and documents.

## A.6 BASIC CONSTRUCTION PLAN STANDARDS AND DETAILS

### A.6.1 Draughting standards: Earthworks and Roothing

#### A.6.1.1 Drawing scales

The sheet size shall be A1, except a smaller size may be used for small jobs that fit on a single smaller size at the scales in Table 2.

Plan Type	Plan Scales	Long section scales	Cross-section
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<sup>1</sup> Tide levels listed in Tide Tables published by LINZ use a Wellington Standard Port zero datum equivalent to -0.915 m MSL or 3.002 m below bench mark K80/1 (LINZ code ABPB). The actual average measured sea level is currently measured at around 1.08 m above Wellington Standard Port datum or 0.17 m MSL (1953 Wellington Local Datum).

		<i>Horizontal</i>	<i>Vertical</i>	<b>scales</b>
Proposed Earthworks Construction	1:500 or 1:200 or 1:100	-	-	-
Earthworks Asbuilt	1:500	-	-	-
Proposed Roothing Construction	1:500 or 1:200 or 1:100	1:200 or 1:100	1:50 or 1:20	1:200 or 1:100
Roothing Asbuilt	1:500	-	-	-

**Table 2: Scales to be used in Plans**

### A.6.1.2 Line Sizes and Colour of Shading

Types of lines/and colour of shading to be used on plans are described in Table 3.

<b>Feature</b>	<b>Line Type</b>	<b>Colour of Shading</b>
Existing boundaries	Medium broken	
Proposed boundaries of new lots	Heavy continuous	
Existing 10m contour	Medium-fine continuous	
Existing 2m contour	Fine continuous	
Proposed 2m & 10m contours where formation is cut	Medium continuous	
Proposed 2m & 10m contour where formation is filled	Medium broken	
Perimeter of cut area	Fine dotted	Pale pink
Perimeter of filled area	Fine dotted	Pale blue

**Table 3: Line sizes and colour of shading to be used**

### A.6.1.3 Plan Numbering

Plans shall be numbered and dated.

Amendments shall be numbered, dated and detailed.

Plans shall be clearly legible. Traditionally with hand drafting the minimum line/lettering thickness was 0.18 mm and the minimum height of lettering was 2.0 mm. Good modern printing systems can be legible with finer lines and lettering.

#### **A.6.1.4 Plan Information**

The following information is required on all plans:

- a) A North point.
- b) Existing and proposed boundaries.
- c) Positions and levels of control points or survey marks used in surveys shall be shown.
- d) Contours clearly showing the land formation. The contours shall be at appropriate vertical intervals (preferably not more than 2 m) covering all the land affected by the proposed subdivision. On small proposals, which do not involve earthworks, lesser topographic detail is acceptable.

#### **A.6.2 Draughting standards: Drainage and Water**

All drawings and plans submitted for approval must be in accordance with the current Wellington City Council – Drainage and Water Network Drawing and Asbuilt Specification.

### **A.7 AS-BUILT DETAILS**

As-Built drawings are required prior to the issue of a Certificate of Practical Completion or a certificate under section 224(c) of the Resource Management Act.

Upon completion of work Council shall receive detailed As-Built drawings of all assets to be vested in Council, for water supply connections of any type to Council mains, cut and fill areas (including depths) and final land contours.

All drawings and plans submitted for approval must be in accordance with the Council's current Drawing and Asbuilt Specification.

As a minimum, the following items are required to be included on as-built plans:

- a) Council prefers documents to be submitted electronically.
- b) Full sized As-Built drawings can be supplied in AutoCAD (\*.dxf or \*.dwg), Microstation (\*.dgn) or other agreed electronic format on CD.

c) There may be circumstances where hardcopy paper drawings can be supplied or desirable – prior approval will be required in these circumstances. In these situations drawings shall be completely legible, clean, unfolded and legible.

d) If not electronically submitted the number of paper plans of the As Built work required are as follows:

Roading plans	1
Earthworks plans	3
Drainage plans	2
Water supply plans	3
TOTAL NO. OF PLANS	<u>9</u>

e) Drawings are to be the following scales:

Roading: 1:500 scale

Drainage & Water: refer to Wellington City Council Drawing and Asbuilt Specification – Water & Drainage

f) General information to be shown on asbuilts includes:

- A north point
- Drawing title
- Property boundaries
- Plan scale(s) and date
- Lot numbers and house numbers
- Appropriate legend
- House / building locations - where appropriate
- Kerb lines
- Name of premises served – if known
- Name of company and person who prepared the asbuilt plans

g) All co-ordinates shall be in terms of the New Zealand map grid, NZTM (New Zealand Transverse Mercator), to  $\pm 0.1\text{m}$ .

h) All levels are to originate from a city bench-mark.

i) Construction plans are not acceptable as as-built plans.

j) Long sections shall be drawn with the high point of the drain on the right side of the sheet.

- k) All horizontal distances from adjacent property boundaries are to be measured to  $\pm 0.1$ m.
- l) Each service or feature shall be distinguished by a different legend as shown on the Standard Engineering Detail Sheets.

Also to be submitted with the as-built plans are;

- Detailed drawings at appropriate scale of all structures requiring a drawing for the structure to be built. Examples are: headwalls, overflows structures, pump stations, valve chambers, secondary intakes, retaining walls. These drawings shall include reinforcing drawings if appropriate. Detail drawings may be a copy of the construction drawings amended as appropriate.
- All relevant design calculations.
- Comments/information about ground conditions encountered
- Digital photographs may be submitted with the as-built, cross referencing the position of the camera, date and photographers name.
- Date of installation or construction for all assets and their components.
- Maintenance manuals, plans and/or guarantees for assets and their components, particularly street furniture.

Where Rooding, Drainage or Water Supply services have been constructed a certificate shall be supplied stating the following:

- The New Zealand map grid co-ordinates of all water and drainage service covers and survey marks: these shall be also shown on the plans.
- Existing services – All existing services (live and abandoned) shall be clearly shown by their location and depth.
- That all services have been constructed in accordance with Council's Code of Practice for Land Development.

The plans shall be drawn in accordance with the "Basic Plan Standards and Details" in Appendix A.

**NOTE:** Each section further details asbuilt requirements for each specific asset, under Asbuilt Requirements.

## **A.8 CERTIFICATION**

A drainage permit will not be issued until construction plans have been approved. In the case of subdivisions, Section 223, 224C will not be given until asbuilts have been received and approved.

As-built drawings shall be certified as being accurate and within acceptable engineering and survey tolerances by a Chartered Professional Engineer or Registered Professional Surveyor. This certification will be required of all completed work.

The survey work and preparation of as-built plans shall be carried out by the subdivider.

The receipt and Council's acceptance of as-built plans does not absolve the developer of any responsibility for their accuracy. In the event of an asset detail not being provided or incorrect, or an asset not being in the position shown on the as-built plan, it shall be the responsibility of the developer to provide or locate the asset for the owner of the property. Any work initiated by Council to rectify problems arising will be at the expense of the developer.

For minor works associated with development, the Council will accept as-built plans, of suitable quality, from registered drain layers and /or technically qualified persons.

## **A.9 RESOURCE CONSENTS**

There shall be no diversion or piping of watercourses / streams (including small and ephemeral streams) or discharge into them, or damming of them without resource consent as required in Greater Wellington Regional Council's Regional Freshwater Plan.

## **A.10 TESTING**

All testing except for the water reticulation pipe line test shall be arranged and paid for by the Subdivider.

All work required to be tested and approved shall have been pre-tested by the Subdivider and proved to be satisfactory before the request is made for official testing.

## **A.11 CONNECTION TO EXISTING ROADS AND SERVICES**

The connection to the existing water main will be carried out by the Council at the Subdivider's cost. In some instances the Council may allow the Subdivider to make the connection.

The Subdivider shall give the respective Council Representative five working days notice of their need to connect to any public drains or water mains. The connections will be permitted only after the new reticulation has passed the necessary testing.

Where the underground services extend into the existing road corridor the work must be carried out in accordance with the WCC Code of Practice for Working on the Road. This will require a Road Work Notice to be obtained and associated fees paid.

## **A.12 SURVEY MARKS**

Survey marks shall be provided in the kerb. The distance between them not exceeding 50 metres.

The marks shall be galvanized iron bolts with a head diameter of 25 mm, and a minimum length of 100mm.

These survey marks are primarily for reference to underground services and to locate the kerb in terms of the New Zealand map grid co-ordinates; NZTM (New Zealand Transverse Mercator)

Care is to be taken to preserve or relocate all survey marks and height control bench marks.

## **A.13 RETICULATION OF UTILITY SERVICES**

A suggested position for these services in road land is shown in drawing No.R-2-704 in Appendix C.

Where possible services shall not cross over lots other than the one served.

Further to the provision of wastewater and stormwater drainage and water reticulation services, arrangements shall be made to reticulate the power, gas and telecommunication, including ultra fast broadband, services of all interested Utility Operators to all lots created.

For road lighting power reticulation refer to Section C.4.2.

## **A.14 CONFIRMATION OF UTILITY SERVICES**

All utility service authorities / owners shall be contacted at the start of the design process to establish the location of any / all services within the design area.

If a service authority has services in the design area, copies of their service plans are to be obtained. Any services near the proposed design area are to be shown on the proposal plan.

There shall be a minimum clearance of 300mm vertical and horizontal between a public drain and other services.

The accurate position of services which are potentially in conflict with the network shall be confirmed as part of the design process; by digging test holes and /or using ground penetrating radar, depth finding locators etc.

## **A.15 CONSULTATION WITH UTILITY AUTHORITIES**

Prior to submitting a design to Council; utility authorities / owners, of services within the design area, are to have been consulted to gain their clearance. They may have requirements for working near their service or additional information.

If a conflict has been established there may need to be further consultation to discuss modifying or shifting of a service – this shall be carried out as part of the design process.

The consultation is to include the option of the service authority amending their utility service during construction.

## **A.16 DAMAGE**

The Subdivider shall immediately make good any damage caused by their work whatsoever unless approved otherwise by the Council Representative.

## **A.17 INSURANCE**

Where work is to be carried out on a dedicated road or other land not owned by the Subdivider, the following insurance provisions shall apply.

- a) The Subdivider shall be responsible to ensure that Public Liability insurance is arranged in the joint names of the Subdivider and the Council, for a minimum amount of \$2,000,000 indemnifying the parties in respect of any one claim or series of claims arising out of the same occurrence.
- b) The policy shall be extended to cover all insurable risks normally applicable to subdivision work and including vibration and removal of support.
- c) The policy shall have attached either:
  - i) A cross Liabilities/Joint Insured clause or,
  - ii) Appropriate wording which states that the policy will be construed as though a separate policy had been issued to each of the joint insurers.

## **A.18 EMERGENCY PROCEDURES**

If during the course of construction works any situation arises where the security of public or private property, or the operation of any public facility is endangered, the Subdivider must take action to rectify the situation immediately.

## **A.19 SITE TIDY UP**

Upon completion of the work, the Subdivider shall leave the site in a clean and tidy condition.

This includes the following:

- a) Carriageways and footpaths are to be swept clean of all loose material
- b) Kerb and channel and stormwater sumps are to be clean.

Any other incidental rubbish is to be removed from the site.

## **A.20 MAINTENANCE PERIOD**

The Subdivider shall be responsible to repair any deficiencies that are due to the negligence of the Subdivider or their Contractors.

The Subdivider shall also be responsible to rectify any part of the water reticulation system that does not perform up to normal standards as described in this Code.

In addition to the above the Subdivider shall maintain the other aspects of the works for a period of 24 months. Except for street planting, which are subject to a 3 year maintenance period.